

In the Claims:

1. (previously presented) A method for controlling extra systolic stimulation (ESS) therapy delivery, comprising the steps of:
 - detecting a myocardial ischemia condition; and
 - responding to the detected myocardial ischemia condition by modifying the delivery of an ESS therapy.
2. (previously presented) A method according to claim 1, wherein modifying the delivery of the ESS comprises any of:
 - disabling the ESS therapy delivery;
 - initiating the ESS therapy delivery;
 - modifying at least one therapy delivery control parameter of the ESS therapy.
3. (previously presented) A method according to claim 1, further comprising:
 - detecting the absence of myocardial ischemia subsequent to an initial affirmative ischemia detection; and
 - modifying the ESS therapy delivery.
4. (previously presented) A method of adapting an extra-systolic stimulation (ESS) therapy delivery sequence in response to an ischemia monitor's output signal, comprising:
 - monitoring myocardial tissue for a myocardial ischemic condition and providing an output signal related to a presence or an absence of a myocardial ischemia condition;
 - in the event that the output signal indicates the presence of the myocardial ischemic condition and an ESS therapy is presently being applied to the myocardial tissue, at least temporarily ceasing further delivery of the ESS therapy; and

in the event that the output signal indicates the presence of the myocardial ischemic condition and the ESS therapy is not presently being applied to the myocardial tissue, initiating delivery of the ESS therapy.

5. (previously presented) A method according to claim 4, further comprising:
in the event that the output signal indicates the absence of the myocardial ischemic condition and the ESS therapy is presently being applied to the myocardial tissue, then either:
continuing delivery of the ESS therapy, or
mode-switching to another cardiac stimulation therapy modality.
6. (previously presented) A method according to claim 4, wherein the monitoring step further comprises:
determining a variation in:
a cardiac conduction interval from a pacing pulse delivery to a resultant depolarization over at least two different cardiac cycles,
a present sensor signal output compared to a prior sensor signal output, wherein said present sensor signal output and said prior sensor signal output is derived from one of: a mechanical sensor, a biological sensor, a metabolic sensor;
a variation in an S-T segment parameters relative to an isoelectric baseline parameter, or
a variation in a portion of a T-wave of a PQRS complex via a cardiac electrogram signal vector means for determining at least one of an onset, a presence and an absence of an ischemia condition.
7. (previously presented) A method according to claim 6, wherein the cardiac electrogram signal vector means includes at least a one of: a tip-to-ring electrode vector, a coil-to-can electrode vector, a coil-to-coil electrode vector, a tip-to-can electrode vector, a ring-to-can electrode vector, a ring-to-ring vector.

8. (previously presented) A method according to claim 7, wherein said method is performed via controls signals generated from a computer readable medium disposed within and operatively coupled to an electronic circuit of an implantable pulse generator.

9. (previously presented) A method according to claim 8, further comprising:
wirelessly transmitting the output signal to a remote device.

10. (previously presented) A method according to claim 9,
wherein the remote device couples to a clinician information network.

11. (currently amended) A computer readable medium for storing executable instructions ~~for performing a method, comprising~~ which, when implemented in a medical device system, cause the system to:

~~instructions for~~ monitoring myocardial tissue for a myocardial ischemic condition and ~~providing~~ provide an output signal related to a presence or an absence of a myocardial ischemia condition;

in the event that the output signal indicates the presence of the myocardial ischemic condition and an ESS therapy is presently being applied to the myocardial tissue, ~~instructions for~~ at least temporarily ~~ceasing~~ cease further delivery of the ESS therapy; and

in the event that the output signal indicates the presence of the myocardial ischemic condition and the ESS therapy is not presently being applied to the myocardial tissue, ~~instructions for initiating~~ initiate delivery of the ESS therapy.

12. (currently amended) A ~~method~~ computer-readable medium according to claim 11, further comprising:

in the event that the output signal indicates the absence of the myocardial ischemic condition and an ESS therapy is presently being applied to the myocardial tissue, then ~~either~~ one of:

~~instructions for continuing~~ continue delivery of the ESS therapy, ~~or and~~
~~instructions for mode-switching~~ to another cardiac stimulation therapy modality.

13. (currently amended) A computer-readable medium according to claim 11,
wherein instructions which cause the system to monitor myocardial tissue for a
myocardial ischemic condition ~~the monitoring step further comprises~~ cause the system
to determine one of:

~~instructions for determining:~~

a variation in a cardiac conduction interval from pacing pulse delivery to resultant
depolarization over at least two different cardiac cycles,

a variation in a present sensor signal output compared to a prior sensor signal
output, wherein said sensor couples to a portion of myocardial tissue and
comprises one of: a mechanical sensor, a biological sensor, a metabolic
sensor;

a variation in S-T segment parameters relative to an isoelectric baseline
parameter, ~~or and~~

a variation in a portion of a T-wave of a PQRS complex,

wherein said variation is determined based upon a cardiac electrogram signal
vector for determining the onset, presence or absence of ~~an~~ the ischemia
condition.

14. (previously presented) A computer-readable medium according to claim 13,
wherein the cardiac electrogram signal vector comprises at least a one of: a tip-to-ring
electrode vector, a coil-to-can electrode vector, a coil-to-coil electrode vector, a tip-to-
can electrode vector, a ring-to-can electrode vector, a ring-to-ring vector.

15. (currently amended) A computer-readable medium according to claim 14, further
comprising instructions ~~for~~ which cause the system to wirelessly transmitting the output
signal to a remote device.

16. (previously presented) A computer-readable medium according to claim 15, wherein the remote device comprises a programming device.

17. (original) A computer-readable medium according to claim 15, wherein said remote device is coupled to a clinician information network.

18. (previously presented) An apparatus for providing an adaptable extra-systolic stimulation (ESS) therapy delivery sequence in response to an output signal from a myocardial ischemia monitor, comprising:

means for monitoring myocardial tissue for a myocardial ischemic condition and providing an output signal related to a presence or an absence of a myocardial ischemia condition;

means for, in the event that the output signal indicates the presence of the myocardial ischemic condition and an ESS therapy is presently being applied to the myocardial tissue, at least temporarily ceasing further delivery of the ESS therapy; and

means for, in the event that the output signal indicates the presence of the myocardial ischemic condition and the ESS therapy is not presently being applied to the myocardial tissue, initiating delivery of the ESS therapy.

19. (previously presented) An apparatus according to claim 18, further comprising:

means for, in the event that the output signal indicates the absence of the myocardial ischemic condition and an ESS therapy is presently being applied to the myocardial tissue, then either continuing delivery of the ESS therapy, or mode-switching to another cardiac stimulation therapy modality.

20. (original) An apparatus according to claim 18, further comprising means for determining a variation in:
- a cardiac conduction interval from pacing pulse delivery to resultant depolarization over at least two different cardiac cycles,
 - a present sensor signal output compared to a prior sensor signal output, wherein said sensor couples to a portion of myocardial tissue and comprises one of: a mechanical sensor, a biological sensor, a metabolic sensor;
 - a variation in S-T segment parameters relative to an isoelectric baseline parameter, or
 - a variation in a portion of a T-wave of a PQRST complex,
- using a cardiac electrogram signal vector for determining the onset, presence or absence of an ischemia condition.
21. (original) An apparatus according to claim 20, wherein the cardiac electrogram vector comprises at least a one of: a tip-to-ring electrode vector, a coil-to-can electrode vector, a coil-to-coil electrode vector, a tip-to-can electrode vector, a ring-to-can electrode vector, a ring-to-ring vector.
22. (previously presented) An apparatus according to claim 21, further comprising means for wirelessly transmitting the output signal to a remote device.
23. (previously presented) An apparatus according to claim 22, wherein the remote device comprises a programming device.
24. (original) An apparatus according to claim 22, wherein said remote device is coupled to a clinician information network.